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Distribution extension and revised map of *Erythrolamprus pygmaeus* (Cope, 1868) (Serpentes: Dipsadidae)

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Abstract: We provide geographic data for the poorly known dipsadid *Erythrolamprus pygmaeus*, including the first record in Rondônia state, as well a new record in central Amazon at lower Purus River, Amazonas state. Additionally we review its distribution in Pará state.

Key words: herpetofauna, Umbrivaga, Madeira River, lower Purus River, Amazon Basin

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The snake *Erythrolamprus pygmaeus* was originally described by Cope (1868) in the genus *Liophis*, having as type locality "Napo or neighboring pt. of Marañon [River]", in Peru (Cope 1868). Markezich and Dixon (1979), created the genus *Umbrivaga* to accommodate three species very similar in external morphology and cranial osteology: *U. pygmaeus* (Cope 1868) from the Amazon lowlands, *U. mertensi* (Roze, 1964) from Venezuela and *U. pyburni* (Markezich and Dixon, 1979) from Colombia. Recent molecular data has shown that both *Liophis* and *Umbrivaga* are, in fact, junior synonyms of *Erythrolamprus* Boie, 1926 (Grazziotin et al. 2012).

Erythrolamprus pygmaeus is a leaf litter inhabitant, probably with fossorial habits, found near water bodies, in primary/secondary forest or grass fields (Cope 1868; Dixon and Soini 1986; Martins and Oliveira 1998), with few data about its ecology or prey preference. It is broadly distributed along the Amazon Basin, despite few records in literature (Equador: Myiata 1982; Vigle 2008; Colombia: Pérez-Santos and Moreno 1988; French Guyana: Dewynter et al. 2008; northern Peru: Dixon and Soini 1986; Duellman and Mendelson 1995; and Brazilian Amazon: Martins and Oliveira 1998; Fernandes et al. 1999; Ávila-Pires et al. 2010; Bernarde et al. 2011; Kawashita-Ribeiro et al. 2011). Due to the rareness of *E. pygmaeus* in herpetofaunal inventories, only in 1998/1999 its first records were published to Brazil (Martins and Oliveira 1998; Fernandes et al. 1999).

Herein, we add new distributional data to this poorly known species in Brazil, providing the first record to Rondônia state, on the left bank of Madeira River and a record to the Madeira-Purus interfluve, filling a gap of distribution in central Amazon. Additionally we review its distribution in Pará state.

We analyzed two specimens of *E. pygmaeus* deposited at the Herpetological Collection of Museu de Zoologia da Universidade de São Paulo (MZUSP), São Paulo, Brazil. Specimen MZUSP 20783 (Figure 1A) was collected on 25 July 2012, during a sampling project undertaken for monitoring fauna in forested areas under effects of the Jirau hydroelectric dam, in an area dominated by *várzea* forest, with dense leaf litter and relatively open canopy, near the district of Mutum Paraná (09°26′45.24″ S; 064°49′28.92″ W, 110 m above sea level [a.s.l.]), on the left bank of Madeira River, Porto Velho municipality, Rondônia state. This individual represents the first record to the state and the most southeast record for the species, expanding its current distribution ca. 550 km toward southwest from the nearest previous record at Manicoré, Amazonas state (Kawashita-Ribeiro et al. 2011) and ca. 810 km toward east from Reserva Extrativista Riozinho da Liberdade, Acre state (Bernarde et al. 2011) (Figure 2).

The other specimen MZUSP 22546 (Figure 1B) was collected on 26 October 2010, during a herpetological expedition to lower Purus River, at central Amazon, also in a flooded area with dense leaf litter, on the right bank of Purus River, Amazonas state (04°18′26.5″ S, 061°48′48.7″ W 40 m a.s.l.). This individual fill up a distribution gap in the Madeira-Purus interfluve, ca. 140 km distant from the nearest previous record, at Manicoré, 340 km from Tefé, and 210 km from Iranduba, all localities in Amazonas state (Fernandes et al. 1999; Kawashita-Ribeiro et al. 2011) (Figure 2).

The easternmost record of *Erythrolamprus pygmaeus* is placed at the municipality of Almerim, Pará state

Figure 1. Specimens of *Erythrolamprus pygmaeus*. **A:** MZUSP 20783 from Porto Velho municipality, Rondônia state. **B:** MZUSP 22546, from lower Purus River, central Amazon, Amazonas state.

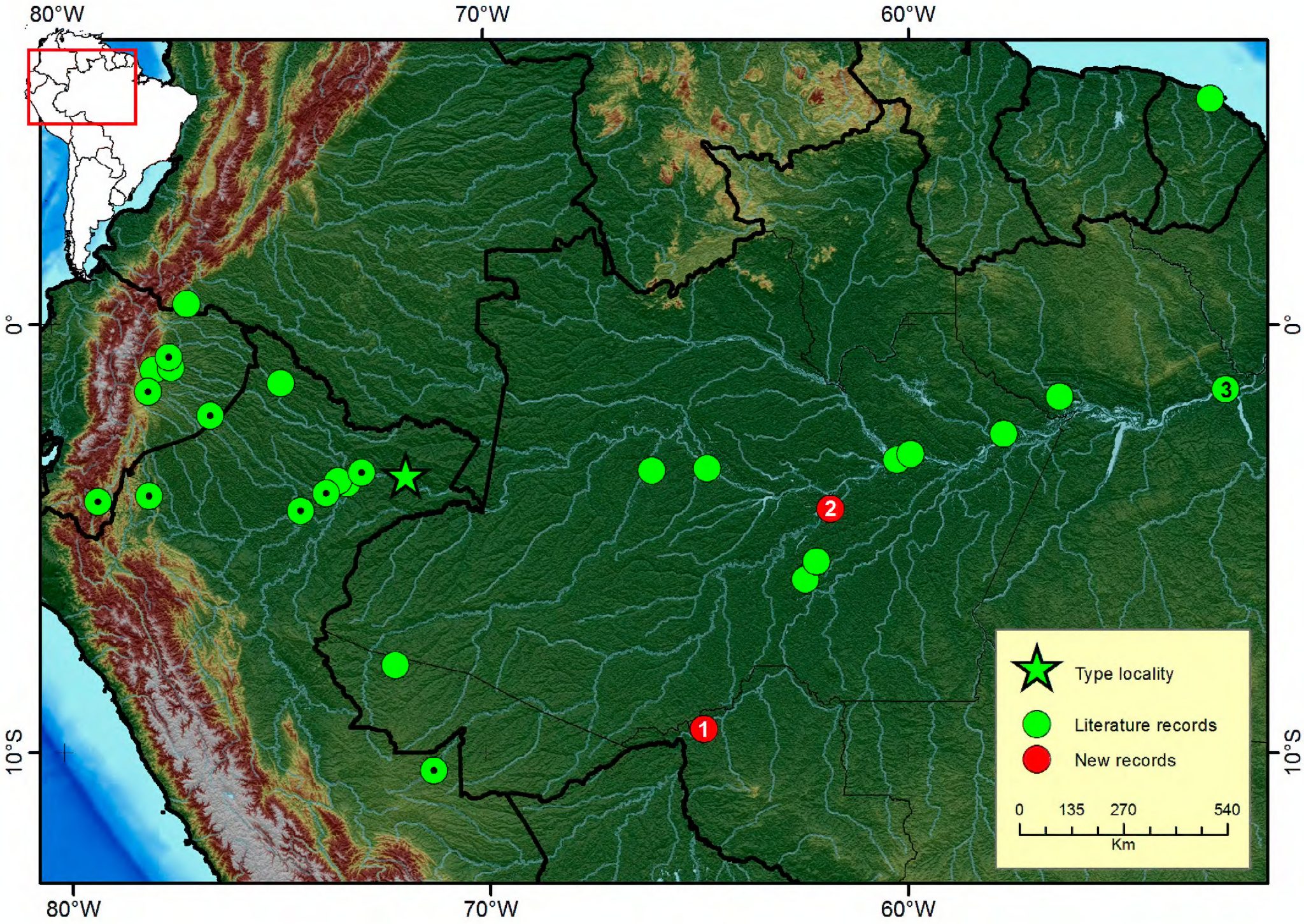

Figure 2. Distribution map of *Erythrolamprus pygmaeus* throughout the Amazon basin, based on literature records (green circles), GBIF-Global Biodiversity Information Facility (green circles with internal dot), and the new ones presented in here (red circles): 1) Jirau dam, Porto Velho Municipality, Rondônia state; 2) lower Purus River, Amazonas state. Green circle with internal number 3 show the misunderstanding record to Almerim municipality, Pará state.

(Kawashita-Ribeiro et al. 2011) (Figure 2) with a previous reference to this individual (MPEG 20996) in Ávila-Pires et al. (2010). However, as mentioned in Ávila-Pires et al. (2010) and confirmed by João F.M. Sarmento (technical manager of herpetology collection at MPEG; pers. comm.), this individual was collected on plateaus in Floresta Nacional Saracá-Taquera, municipality of Oriximiná, west Pará (01°41′ S, 056°27′ W). Thus, the record to Almerim, Pará, was probably a misunderstanding, reducing the known distribution of *E. pygmaeus* (*sensu* Kawashita-Ribeiro et al. 2011) in ca. 430 km to the west.

The two specimens reported here are similar in external morphology and agree with the holotype and data from the literature (Cope 1868; Dixon and Soini 1986; Duellman and Mendelson 1995; Kawashita-Ribeiro et al. 2011). All specimens have a gray-brown dorsum; dorsal scales with white edges and a series of transversal dark blots, spaced by 3–5 scales rows in anterior third of body; a conspicuous nuchal collar, reaching the parietal shields; dorsum of head brown; a longitudinal dark lateral stripe on posterior part of body reaching the tip of tail; dorsal pigment touch the lateral part of ventral scales; belly cream. Snout-vent length (SVL) / tail length (TL) for MZUSP20783: 185/34 mm and 157/28 mm for MZUSP22546; with species ranges between 79–185 mm for SVL and 13–34 mm for TL. Little variation in folidosis: 17–17–15 dorsal rows in both specimens; ventral/subcaudals 130/31 and 122/27 ventrals, for MZUSP20783 and MZUSP22546, respectively, ranging between 122–136 ventrals and 27–38 subcaudals in the species. Six supralabials; 8 infralabials, third and fourth supralabials contacting eye; one pre-ocular, one or two posoculars and 1+2 temporals in both specimens.

Long term surveys during different climatic seasons have been successful in improving lists of herpetofaunal diversity (Silva-Jr. 1993, Pavan and Dixo 2004; Duellman 2005; Dal Vechio et al. 2013). At Jirau dam, such effort was successful in adding some knowledge on the taxonomy, geography distribution and ecology on herpetofaunistic groups (Teixeira et al. 2013, 2014; Dal Vechio et al. 2015, this study) nonetheless, despite all the massive effort only a single specimen of *Erythrolamprus pygmaeus* was found. Similar surveys at nearby dams such as Samuel

(Silva-Jr. 1993) and Santo Antônio (Marçal et al. 2011), and large sampling projects at lower Purus River, in central Amazon, Amazonas state (Waldez et al. 2013) failed to find additional specimens of this species. However, the species seems to be common in northern Peru (Dixon and Soini 1986), which leads us to believe that the poor knowledge on *E. pygmaeus* through the Amazon Basin results from incipient sampling efforts associated with low population densities. Thus, we expand southeastwards the current distribution of *E. pygmaeus* with the first record to Rondônia state and provide a central Amazon record, filling up a distribution gap. Additionally we review the record in Pará state, restricting its distribution to the west of this state and show a distribution map of the species throughout the Amazon basin.

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